

## PATENT ABSTRACTS OF JAPAN

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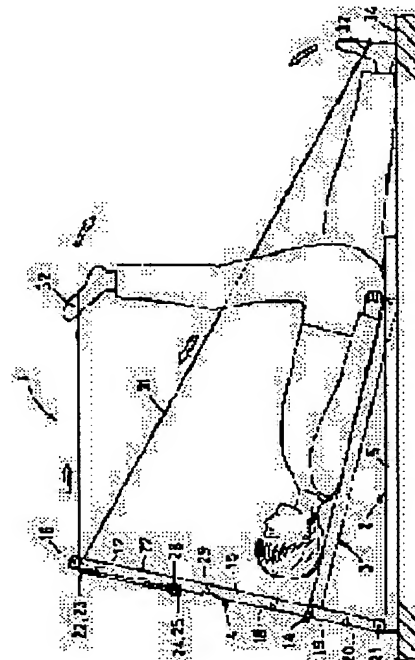
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## (54) EXERCISER

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide an exerciser by which a user can execute foot exercise as effective same as walking exercise at home without loading the body weight on feet and waist.

**SOLUTION:** This exerciser is equipped with a vertically rotatable receiving bed 3 whose one end is pivotally supported by a frame 2, a pulley support 4 which is vertically rotatably and pivotally supported on the frame 2 so as to be faced to the other end of the receiving bed 3 and equipped with upper pulleys 22, 23 in the vicinity of the tip end, a wire 31, whose intermediate part is hung on upper pulleys 22, 23, formed with foot hanging parts 32, 32 on both ends, and an engaging part to engage the receiving bed 3 in an inclined condition raising the other end part and a pulley support 4 in an almost standing condition. Thereby, the user can lie on the back on the receiving bed 3 in a condition engaging the receiving bed 3 and the pulley support 4 by the engaging means and both feet can be hung on the foot hanging parts 32, 32 on both end parts of the wire 33 extended from the upper pulleys 22, 23 toward the upper side of the receiving bed 3.



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CLAIMS

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## [Claim(s)]

[Claim 1] The cradle supported by the frame at the dip condition, and the block base material with which it was set up by the frame by dip up one end of this cradle, and the up block was formed in the section near the upper bed, The motion implement constituted so that both guide pegs can be hung on the foothold section of the wire rope both ends which extended above the cradle from the up block, while having the wire rope with which pars intermedia was almost turned to the up block, and the foothold section was formed in both ends, respectively, and a user's lying on the back and laying the upper half of the body in a cradle.

[Claim 2] The cradle in which the end side was supported pivotably by the frame and prepared free [ vertical rotation ], The block base material with which it was supported pivotably by the frame free [ vertical rotation ] so that the other end side of this cradle might be countered, and the up block was formed in the section near the head, The wire rope with which pars intermedia was almost turned to the up block, and the foothold section was formed in both ends, respectively, Where it had a stop means to stop a block base material in the abbreviation standing-up condition while stopping the cradle in the dip condition that the other end side was raised, and a cradle and a block base material are stopped with said stop means The motion implement constituted so that both guide pegs can be hung on the foothold section of the wire rope both ends which extended above the cradle from the up block, while a user lies on the back and laying the upper half of the body in a cradle.

[Claim 3] The motion implement according to claim 2 which consists of the engagement section by which the stop means was formed in the other end side of a cradle, and the engagement receptacle section which is prepared in a block base material and engaged free [ said engagement section and engaging and releasing ].

[Claim 4] The motion implement according to claim 3 constituted so that whenever [ tilt-angle / of a cradle ] can be changed by two or more engagement receptacle sections' setting spacing in the direction to which a end face [ of a block base material ] and head side is connected, arranging them in it, and making the engagement section engage with either of said engagement receptacle sections selectively.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the motion implement suitable for the application which exercises a guide peg.

[0002]

[Description of the Prior Art] It is said that human being's aging begins from the decline of a guide peg (membrum inferius). And in order to prevent the decline of a guide peg, it is known well that it is optimal to walk proper distance every day.

[0003] However, since it may not be able to do even if those who have the affected part of the symptom of feeling a pain for it violently, for example if weight is applied to the body want to perform locomotion, and such a man's strength of its legs declines, it is to lapse into vicious circle that the symptom of the affected part worsens further. Moreover, even if the person who treated the affected part of the body by the operation etc., for example is going to perform locomotion as rehabilitation, he cannot walk so that it may consider for the pain of the remains of a therapy, but may say that rehabilitation is overdue as a result.

[0004]

[Problem(s) to be Solved by the Invention] This invention is made in view of the above situations, and aims at offer of the motion implement which can exercise the guide peg which has the same effectiveness as locomotion at each home, without applying weight to the body.

[0005]

[Means for Solving the Problem] In order to attain said object, the motion implement concerning this invention The cradle supported by the frame at the dip condition, and the block base material with which it was set up by the frame by dip up one end of this cradle, and the up block was formed in the section near the upper bed, It has the wire rope with which pars intermedia was almost turned to the up block, and the foothold section was formed in both ends, respectively, and while a user lies on the back and laying the upper half of the body in a cradle, it is constituted so that both guide pegs can be hung on the foothold section of the wire rope both ends which extended above the cradle from the up block.

[0006] Moreover, the cradle in which the end side was supported pivotably by the frame and prepared free [ vertical rotation ], The block base material with which it was supported pivotably by the frame free [ vertical rotation ] so that the other end side of this cradle might be countered, and the up block was formed in the section near the head, The wire rope with which pars intermedia was almost turned to the up block, and the foothold section was formed in both ends, respectively, Where it had a stop means to stop a block base material in the abbreviation standing-up condition while stopping the cradle in the dip condition that the other end side was raised, and a cradle and a block base material are stopped with said stop means While a user lies on the back and laying the upper half of the body in a cradle, it is constituted so that both guide pegs can be hung on the foothold section of the wire rope both ends which extended above the cradle from the up block.

[0007] Moreover, in said configuration, the stop means consists of the engagement section prepared in the other end side of a cradle, and the engagement receptacle section which is prepared in a block base material and engaged free [ said engagement section and engaging and releasing ].

[0008] Moreover, in said configuration, spacing is set in the direction to which two or more engagement receptacle sections connect a end face [ of a block base material ], and head side, and it is arranged in it, and by making the engagement section engage with either of said engagement receptacle sections selectively, it is constituted so that whenever [ tilt-angle / of a cradle ] can be changed.

[0009]

[Embodiment of the Invention] Hereafter, the motion implement concerning 1 operation gestalt of this invention is explained based on a drawing. The motion implement shown with a sign 1 in the whole all over drawing is equipped with the frame 2, the cradle 3, and the block base material 4.

[0010] The frame 2 is formed in the shape of [ in which the inside carried out opening ] a rectangle frame from the vertical lever sections 5 and 5 of a left Uichi pair, and the horizontal rod parts 6, 7, and 8 which connect these mutually by the end and other end side. The horizontal rod part 6 which was made to approach mutually and was prepared in the end side of a frame 2, and the top face between seven are covered in the plate section 9. Moreover, the bearings 10 and 10 for supporting the block base material 4 pivotably in the other end of the vertical lever sections 5 and 5 prolonged in the method of outside exceeding the horizontal rod part 8 protrude upward.

[0011] A cradle 3 is formed in the rectangle tabular of the magnitude settled in opening of the frame 2 inside almost exactly, and is suitably reinforced by the reinforcement rod part 11 to which the underside side extends in all directions. Projection formation of the hinge regions 12 and 12 of a left Uichi pair is carried out at the end side of the longitudinal direction of a cradle 3, and these hinge regions 12 and 12 are supported pivotably by the about seven horizontal rod part [ of a frame 2 ] vertical lever sections 5 and 5 free [ vertical rotation ] with the pivotable support shafts 13, such as a pin, respectively.

[0012] The engagement sections 14 and 14 of a left Uichi pair protrude on \*\*\*\* by the side of the other end of a cradle 3. Each engagement section 14 is a side view inverted-L character form, as shown in drawing 2 , and it is formed in the shape of [ which has downward protruding piece 14a at the head ] a hook. This engagement section 14 constitutes the stop means said to this invention with the engagement receptacle sections 18, 19, and 20 mentioned later.

[0013] The block base material 4 is formed in the shape of a rectangle frame from the vertical lever sections 15 and 15 of a left Uichi pair, and the horizontal rod parts 16 and 17 and the engagement receptacle sections 18, 19, and 20 which connect these mutually. And the end face section of the vertical lever sections 15 and 15 is supported pivotably by the bearings 10 and 10 of a frame 2 with the pivotable support shafts 21, such as a pin, respectively. Thereby, the block base material 4 is in the condition which counters the other end side of a cradle 3, and can be freely rotated in the vertical direction.

[0014] Between the horizontal rod part 16 at block base material 4 head, and the horizontal rod part 17 which approaches and is parallel to this, the up blocks 22 and 23 of a left Uichi pair are supported pivotably free [ an orientation revolution ] at the circumference of a horizontal-axis alignment. Moreover, the lower blocks 24 and 25 of a left Uichi pair are formed in four block base material one end rather than the up blocks 22 and 23. The lower blocks 24 and 25 are supported pivotably by the vertical lever section 15 and the supporter material 26 of the shape of a lever over which it was built among 15 free [ an orientation revolution ]. In addition, set predetermined spacing in the direction which connects a end face [ of the block base material 4 ], and head side to the vertical lever sections 15 and 15 on either side, and the notches 27, 28, and 29 of the shape of two or more KO character are formed in it, respectively. Said supporter material 26 is in the condition which inserted the both ends in either of the notches 27, 28, and 29 selectively, and can be fixed now to the vertical lever sections 15 and 15 with the fastener of stop screw 30 grade. (The condition of having inserted the supporter material 26 in the middle notch 28, and having fixed is shown in drawing.)

[0015] The sign 31 shows wire ropes, such as a rope of proper die length with which the annular foothold sections 32 and 32 were formed in both ends. That pars intermedia is almost turned to the up block 22, the lower block 24, the lower block 25, and the up block 23 one by one (refer to drawing 4 ), and, as for this wire rope 31, those both ends are pulled out from between the horizontal rod part 16 and 17 at the cradle 3 side.

[0016] The engagement receptacle sections 18, 19, and 20 prepared in the end face approach of the block base material 4 consist of members of the shape of a lever with which each connects between the vertical lever section 15 and 15 like the horizontal rod parts 16 and 17. These engagement receptacle sections 18, 19, and 20 set predetermined spacing in the direction (namely, longitudinal direction of the block base material 4) to which a end face [ of the block base material 4 ] and head side is connected, are arranged in juxtaposition, and can engage said engagement section 14 now with the either selectively.

[0017] Subsequently, the busy condition of this motion implement 1 is explained. In using it, the block base material 4 is first started in the abbreviation straight condition, subsequently the other end side of a cradle 3 is raised, and the engagement section 14 is made to engage with either of the engagement

receptacle sections 18, 19, and 20 of the block base material 4 (engagement receptacle section 19 middle in drawing). Thereby, like drawing 1 – drawing 3, the cradle 3 in the dip condition that the other end side was raised, and the block base material 4 of the abbreviation standing-up condition which inclined a little in the cradle 3 side stop each other, and each is held at the aforementioned condition. [0018] Then, a user inserts the tiptoe part of both guide pegs in the foothold sections 32 and 32 of the wire rope 31 with which both ends extended above the cradle 3, respectively, and hangs the part of the arch of foot on each foothold section 32 while he lies on the back like drawing 3 and lays the upper half of the body in a cradle 3. And one guide peg is stuck to a floor 34, and motion which makes both guide pegs go up and down between a horizontal position and a vertical position by turns, lengthening a knee as much as possible is performed from the condition of having uprighted the guide peg of another side mostly.

[0019] Under the present circumstances, if the guide peg of the formed direction is taken down as the arrow head showed to drawing 3, it is pulled by that guide peg, a wire rope 31 is moved to an end side, and the guide peg of another side can pull up even in the abbreviation straight condition by the other end side of the wire rope 31 which can be drawn near to the block base material 4 side in connection with this. Thus, motion of the guide peg which has the effectiveness same with having carried out locomotion even if it was a person with a difficult walk, since motion which goes up and down both guide pegs by turns even if it does not put in the impossible force, since the guide peg of another side is pulled up with the weight of one guide peg was able to be performed, as for a user's weight, most was moreover caught by the cradle 3 in that case, and the body was not started, for example a pain was in the body can be performed.

[0020] Moreover, in order to exercise after the body has bent focusing on the waist by dip of a cradle 3 from the ankle the letter of the abbreviation for L characters, or in the shape of abbreviation for V characters in addition to the muscle applied to the waist being developed when a guide peg can pull up with a wire rope 31, the muscle on the background of the body applied to the back from the waist is also developed. Therefore, it becomes possible to, extend the muscle on the background of the body from an ankle to the back almost on the whole as a result, and prevention of low back pain, therapy, and rehabilitation can also be planned.

[0021] And it can expect the effectiveness of aiming at aging prevention and prevention of an adult disease while it prevents the decline of a guide peg and plans health promotion by performing motion of the fixed time amount [ every ] above every day, since this motion implement 1 can be easily used also in domestic if there is even a tooth space about one tatami.

[0022] In addition, although the engagement section 14 was made to engage with the engagement receptacle section 19 above, whenever [ tilt-angle / of the cradle 3 in a busy condition ] is changeable by being referred to as the engagement receptacle section 18 or 20. That is, the include angle which the guide peg uprighted when a user used it, since whenever [ tilt-angle / of a cradle 3 ] would become small (an inclination is ), if the engagement section 14 is made to engage with the engagement receptacle section 20 of block base material 4 end-face approach, and a fuselage make will approach a right angle, bending of the joint of the root of a guide peg also becomes shallow, and exercising becomes easy. Therefore, it becomes suitable when a person with the comparatively hard body and a person with the heavy symptom of the pain of the body use it. On the other hand, if the engagement section 14 is made to engage with the engagement receptacle section 18 of block base material 4 head approach, since whenever [ tilt-angle / of a cradle 3 ] will become large (an inclination is ), the above becomes a little difficult [ motion ] reversely. Therefore, it becomes suitable when a person with the comparatively soft body and the good person of health condition use it.

[0023] Moreover, as shown in drawing 5, the cushioning material 35 (a floor cushion is also good) of proper thickness can be put on the plate section 9 of a frame 2, and when using prevention of low back pain, a therapy, and rehabilitation as a key objective especially, it can also be used after this has raised the waist. If it does in this way, the deflection of the body in the part of the waist will become still larger, and will become remarkable [ one layer of effectiveness nearby which develops the muscle on the background of the body ]. Therefore, the effectiveness excellent in prevention of low back pain, a therapy, and especially rehabilitation is expectable.

[0024] Moreover, if the supporter material 26 is inserted in the notch 27 of block base material 4 head approach and it fixes to it, the up blocks 22 and 23 and the lower blocks 24 and 25 approach, and although the supporter material 26 which supports the lower blocks 24 and 25 above was inserted in the notch 28 and it fixed, since the extension die length of wire rope 31 both ends which extend above a cradle 3 becomes long, it will become suitable when a tall user uses it. If the supporter material 26 is

inserted in the notch 29 of block base material 4 end-face approach and it fixes reversely, since the extension die length of wire rope 31 both ends which extend to the cradle 3 upper part will become short, it becomes suitable when a short user uses it. Thus, according to a user's height, the extension die length of wire rope 31 both ends can be adjusted now by fixing the supporter material 26 to either of the notches 27, 28, and 29 selectively.

[0025] And at the time of un-using [ of the motion implement 1 ] it, while holding a cradle 3 inside a frame 2 like drawing 4 , it is foldable in the condition of having piled up the block base material 4 above this frame 2 and a cradle 3. Thereby, the motion implement 1 becomes very compact and storage of it is attained also in a narrow storage space.

[0026] In addition, it cannot be overemphasized that the motion implement concerning this invention is not limited to the above operation gestalt. For example, although a pair each of up blocks 22 and 23 and the lower blocks 24 and 25 were formed above When not enabling accommodation of the extension die length of wire rope 31 both ends, it is not necessary to form a lower block. For example, one piece or two or more up blocks can be formed in the section near the head of the block base material 4, and a configuration which made the both ends of the wire rope which turned pars intermedia to this up block almost, and was supported extend above a cradle can also be adopted.

[0027] Moreover, the configuration of the engagement section and the engagement receptacle section is arbitration as long as these can be engaged free [ engaging and releasing ] mutually, for example, one side is a pin, and a configuration which is the pin hole with which another side engages with this pin is also considered.

[0028] Moreover, although the stop means was constituted from the engagement section by the side of a cradle 3, and the engagement receptacle section by the side of the block base material 4 above, a stop means may be not being limited to what a cradle 3 and the block base material 4 stop mutually, for example, stopping a cradle 3 and the block base material 4 on a frame 2 independently, respectively, and may be the dip condition of a cradle 3, the abbreviation standing-up condition of the block base material 4, and a configuration to hold.

[0029] Furthermore, the effectiveness that motion of a guide peg can be performed without applying weight to the body even if fixed support is carried out by whenever [ predetermined / to a frame 2 / for example in cradle 3 tilt-angle ] or the block base material 4 is being fixed to the frame 2 in the state of the set-up, although the cradle 3 and the block base material 4 were supported pivotably on the frame 2 above and constituted possible [ folding of the motion implement 1 ] is done so.

[0030]

[Effect of the Invention] As explained above, while according to the motion implement concerning this invention a user lies on the back and lays the upper half of the body in a cradle In the condition of having stopped, respectively, both guide pegs in the foothold section of the wire rope both ends which extended above the cradle from the up block Since motion which makes both guide pegs go up and down by turns can be performed reasonable, most is caught by the cradle in that case and a user's weight is not applied to the body For example, since a pain is in the body, even if a walk is a difficult person, locomotion and motion of the guide peg which has the same strength of its legs consolidation effectiveness can be performed. Moreover, since said motion will be carried out after the body has bent focusing on the waist by dip of a cradle, the muscle on the background of the body can be extended and prevention and rehabilitation of low back pain can also be planned. And since it can be easily used in domestic, while preventing the decline of a guide peg and planning health promotion by using it fixed time amount every every day, the effectiveness of aiming at aging prevention and prevention of an adult disease is also expectable.

[0031] Moreover, in what supported the cradle and the block base material pivotably on the frame respectively free [ vertical rotation ], at the time of un-using it, a motion implement can be folded up in a compact, and it becomes possible to keep it also to a narrow tooth space.

[0032] Furthermore, by making the engagement section engage with either of the engagement receptacle sections selectively, by the thing which enabled it to change whenever [ tilt-angle / of a cradle ], it can be made whenever [ hardness / of a user's body / , or tilt-angle / of the request according to the pain of the body ], for example, and moderate motion can be performed.

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[Translation done.]

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the perspective view of the motion implement concerning 1 operation gestalt of this invention.

[Drawing 2] It is a sectional side elevation in the A-A line of drawing 1 .

[Drawing 3] It is the side elevation of a motion implement showing a busy condition.

[Drawing 4] It is the perspective view of the motion implement in a fold-up condition.

[Drawing 5] It is the side elevation of a motion implement showing another busy condition.

[Description of Notations]

1 Motion Implement

2 Frame

3 Cradle

4 Block Base Material

14 14 Engagement section (component of a stop means)

18, 19, 20 Engagement receptacle section (component of a stop means)

22 23 Up block

31 Wire Rope

32 32 Foothold section

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[Translation done.]

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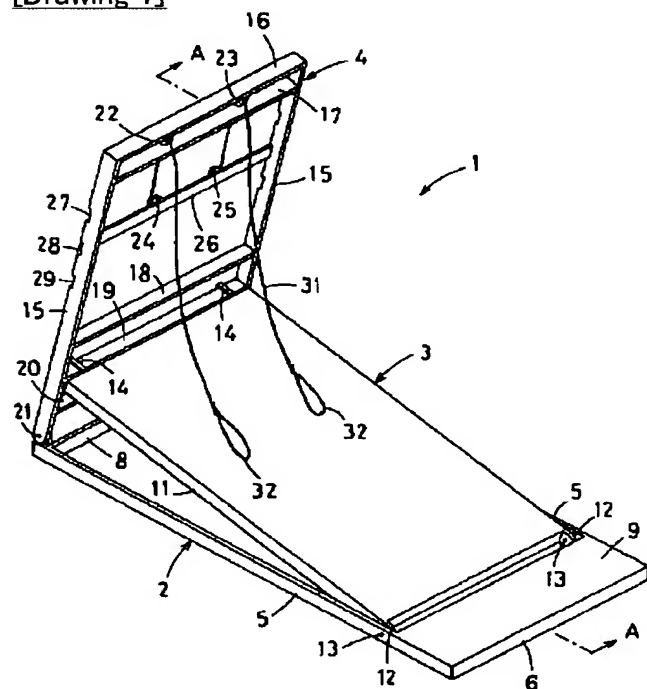
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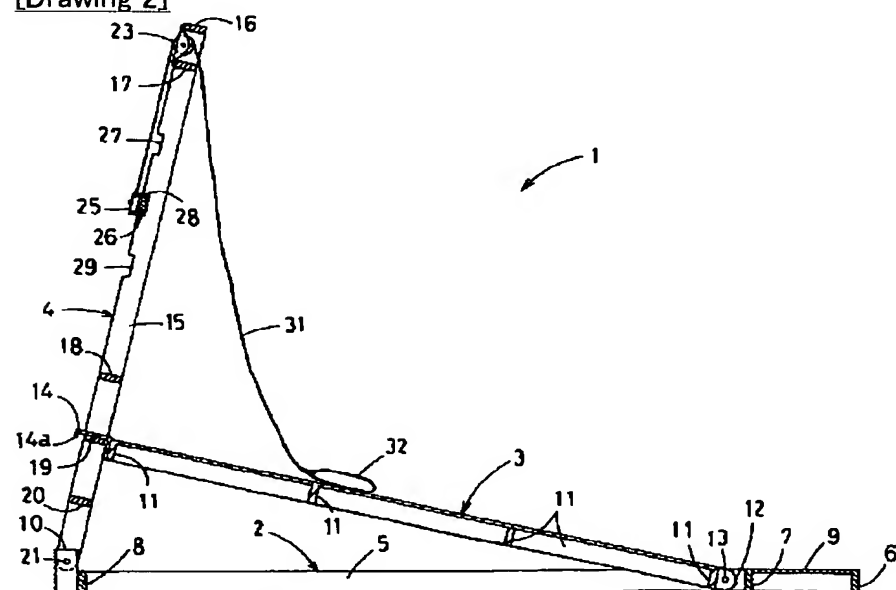
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## DRAWINGS

[Drawing 1]

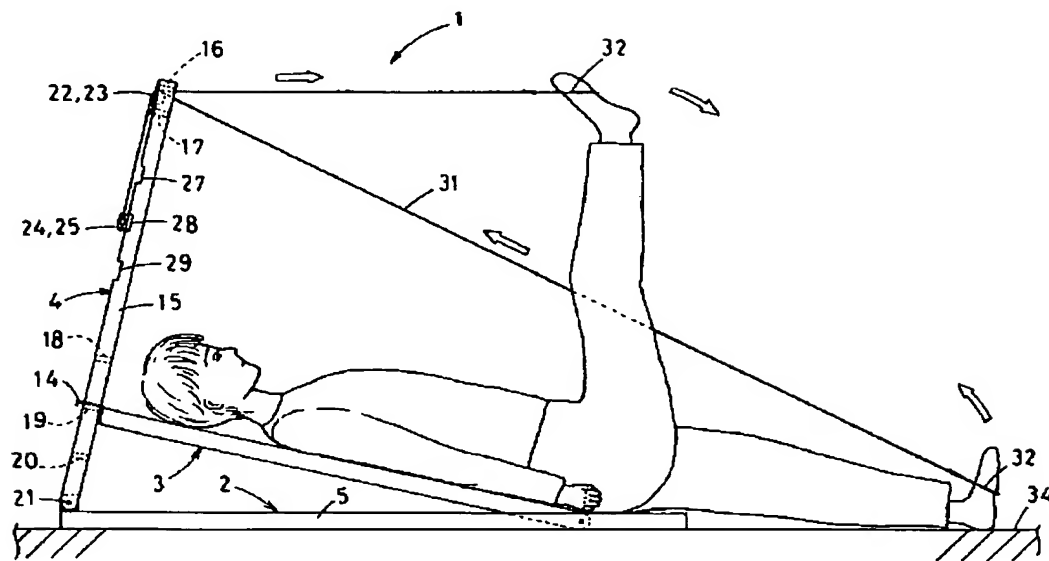


[Drawing 2]

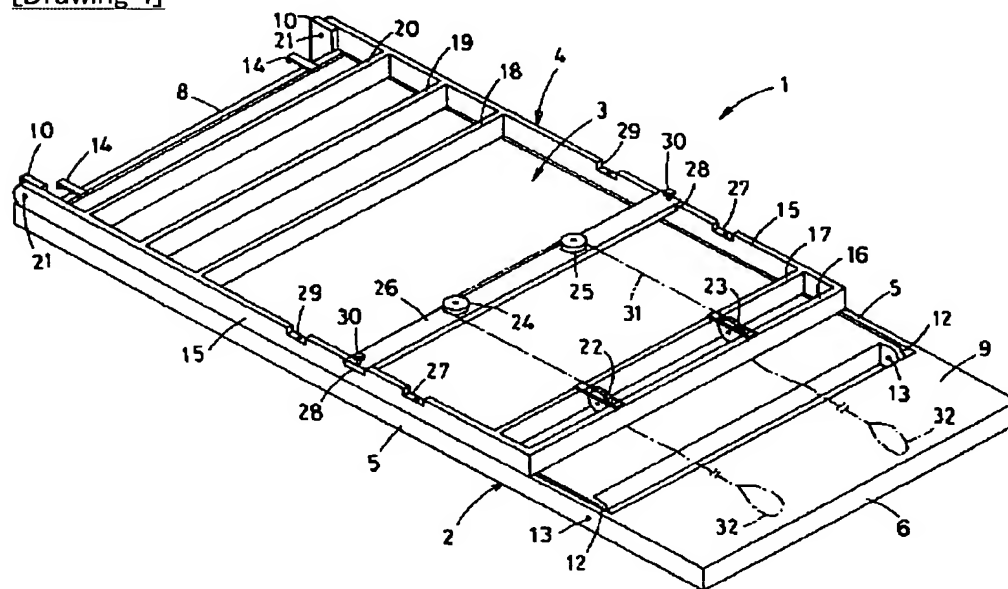


[Drawing 3]

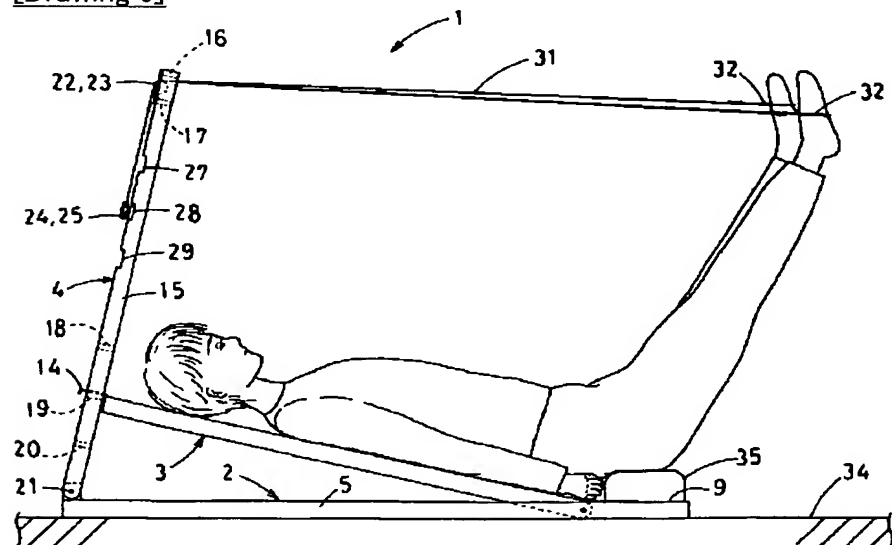




[Drawing 4]



[Drawing 5]



[Translation done.]

**(書誌+要約+請求の範囲)**

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 (51)【国際特許分類第7版】

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**(57)【要約】**

【課題】各家庭において、足腰に体重をかけずに、歩行運動と同様の効果を有する足の運動を行なうことができる運動具を提供すること。

【解決手段】一端側がフレーム2に枢支されて上下回動自在に設けられた受け台3と、この受け台3の他端側に対向するようフレーム2に上下回動自在に枢支され、先端近傍部に上部滑車22、23が設けられた滑車支持体4と、中間部が上部滑車22、23に回し掛けられ両端部に足掛け部32、32が形成された索条31と、受け台3をその他端側が持ち上げられた傾斜状態に係止するとともに滑車支持体4を略起立状態に係止する係止手段とを備え、前記係止手段により受け台3及び滑車支持体4に係止した状態で、使用者が仰臥して上半身を受け台3に載置するとともに、上部滑車22、23から受け台3の上方に延出した索条31両端部の足掛け部32、32に両足を掛止できるように構成されている。

**【特許請求の範囲】**

【請求項1】フレームに傾斜状態に支持された受け台と、この受け台の傾斜上端側でフレームに立設され、上端近傍部に上部滑車が設けられた滑車支持体と、中間部が上部滑車に回し掛けられ両端部にそれぞれ足掛け部が形成された索条とを備え、使用者が仰臥して上半身を受け台に載置するとともに、上部滑車から受け台の上方に延出した索条両端部の足掛け部に両足を掛止できるように構成されている運動具。

【請求項2】一端側がフレームに枢支されて上下回動自在に設けられた受け台と、この受け台の他端側に対向するようフレームに上下回動自在に枢支され、先端近傍部に上部滑車が設けられた滑車支持体と、中間部が上部滑車に回し掛けられ両端部にそれぞれ足掛け部が形成された索条と、受け台をその他

端側が持ち上げられた傾斜状態に係止するとともに滑車支持体を略起立状態に係止する係止手段とを備え、前記係止手段により受け台及び滑車支持体を係止した状態で、使用者が仰臥して上半身を受け台に載置するとともに、上部滑車から受け台の上方に延出した索条両端部の足掛け部に両足を掛止できるように構成されている運動具。

【請求項3】係止手段が、受け台の他端側に設けられた係合部と、滑車支持体に設けられ前記係合部と係脱自在に係合する係合受け部とから構成されている請求項2に記載の運動具。

【請求項4】複数の係合受け部が滑車支持体の基端側と先端側とを結ぶ方向に間隔をおいて配設され、係合部を前記係合受け部のいずれかと選択的に係合させることにより受け台の傾斜角度を変えられるように構成されている請求項3に記載の運動具。

## 詳細な説明

### 【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、足の運動を行なう用途に適した運動具に関するものである。

【0002】

【従来の技術】人間の老化は足(下肢)の衰えから始まると言われている。そして、足の衰えを防止するためには、毎日適宜の距離を歩行するのが最適であることが、よく知られている。

【0003】しかし、例えば足腰に、体重がかかると激しく痛むというような症状の患部を有する人などは、歩行運動を実行したくてもできない場合があり、こうした人は脚力が衰えるので、より一層患部の症状が悪くなるという悪循環に陥ることとなっている。また、例えば足腰の患部を手術等で治療した人が、リハビリテーションとして歩行運動を行なおうとしても、治療跡の痛みのために思うように歩行することができず、その結果リハビリテーションが遅れるという場合もある。

【0004】

【発明が解決しようとする課題】本発明は以上のような事情に鑑みてなされたものであって、各家庭において、足腰に体重をかけずに、歩行運動と同様の効果を有する足の運動を行なうことができる運動具の提供を目的とするものである。

【0005】

【課題を解決するための手段】前記目的を達成するため、本発明に係る運動具は、フレームに傾斜状態に支持された受け台と、この受け台の傾斜上端側でフレームに立設され、上端近傍部に上部滑車が設けられた滑車支持体と、中間部が上部滑車に回し掛けられ両端部にそれぞれ足掛け部が形成された索条とを備え、使用者が仰臥して上半身を受け台に載置するとともに、上部滑車から受け台の上方に延出した索条両端部の足掛け部に両足を掛止できるように構成されているものである。

【0006】また、一端側がフレームに枢支されて上下回動自在に設けられた受け台と、この受け台の他端側に対向するようフレームに上下回動自在に枢支され、先端近傍部に上部滑車が設けられた滑車支持体と、中間部が上部滑車に回し掛けられ両端部にそれぞれ足掛け部が形成された索条と、受け台をその他端側が持ち上げられた傾斜状態に係止するとともに滑車支持体を略起立状態に係止する係止手段とを備え、前記係止手段により受け台及び滑車支持体を係止した状態で、使用者が仰臥して上半身を受け台に載置するとともに、上部滑車から受け台の上方に延出した索条両端部の足掛け部に両足を掛止できるように構成されているものである。

【0007】また、前記構成において、係止手段が、受け台の他端側に設けられた係合部と、滑車支持体に設けられ前記係合部と係脱自在に係合する係合受け部とから構成されているものである。

【0008】また、前記構成において、複数の係合受け部が滑車支持体の基端側と先端側とを結ぶ方向に間隔をおいて配設され、係合部を前記係合受け部のいずれかと選択的に係合させることにより受け台の傾斜角度を変えられるように構成されているものである。

【0009】

【発明の実施の形態】以下、本発明の一実施形態に係る運動具を図面に基づいて説明する。図中に全体を符号1で示される運動具は、フレーム2と、受け台3と、滑車支持体4とを備えている。

【0010】フレーム2は、左右一対の縦杆部5、5と、これらをその一端側と他端側とで相互に連結する横杆部6、7、8とから、内側が開口した矩形枠状に形成されている。フレーム2の一端側に互いに接近させて設けられた横杆部6、7間の上面は平板部9で覆われている。また、横杆部8を越えて外方に延びた縦杆部5、5の他端部には、滑車支持体4を枢支するための軸受け部10、10が上向きに突設されている。

【0011】受け台3は、フレーム2内側の開口にほぼピッタリと収まる大きさの矩形板状に形成され、その下面側が縦横に延びる補強杆部11によって適宜に補強されている。受け台3の長手方向の一端側には左右一対のヒンジ部12、12が突出形成され、これらのヒンジ部12、12がそれぞれピン等の枢支軸13によってフレーム2の横杆部7近傍の縦杆部5、5に上下回動自在に係合されている。

【0012】受け台3の他端側の端部には、左右一対の係合部14、14が突設されている。各係合部14は、図2に示したように側面視逆L字形で、その先端に下向きの突片14aを有するフック状に形成されている。この係合部14が、後述する係合受け部18、19、20とともに本発明に係る係止手段を構成している。

【0013】滑車支持体4は、左右一対の縦杆部15、15と、これらを相互に連結する横杆部16、17及び係合受け部18、19、20とから、矩形枠状に形成されている。そして、縦杆部15、15の基端部が、それぞれピン等の枢支軸21によってフレーム2の軸受け部10、10に係合されている。これにより、滑車支持体4は受け台3の他端側に対向する状態で、上下方向に回動自在となっている。

【0014】滑車支持体4先端の横杆部16と、これに近接して平行する横杆部17との間には、左右一対の上部滑車22、23が、水平軸心まわりに定位置回転自在に係合されている。また、上部滑車22、23よりも滑車支持体4基端側には左右一対の下部滑車24、25が設けられている。下部滑車24、25は、縦杆部15、15間に架け渡された杆状の支持部材26に定位置回転自在に係合されている。なお、左右の縦

杆部15、15には、滑車支持体4の基端側と先端側とを結ぶ方向に所定間隔をおいて複数のコ字状の切欠部27、28、29がそれぞれ形成され、前記支持部材26は、その両端部を切欠部27、28、29のいずれかに選択的に嵌め込んだ状態で、止めネジ30等の固定具により縦杆部15、15に固定できるようになっている。(図には支持部材26を中間の切欠部28に嵌め込んで固定した状態を示している。)

【0015】符号31は、両端部に環状の足掛け部32、32が形成された、適宜長さのロープ等の索条を示している。この索条31は、その中間部が上部滑車22、下部滑車24、下部滑車25、上部滑車23に順次回し掛けられ(図4参照)、その両端部が横杆部16、17間から受け台3側に引き出されている。

【0016】滑車支持体4の基端寄りに設けられた係合受け部18、19、20は、それぞれが横杆部16、17と同様に縦杆部15、15間を連結する杆状の部材で構成されている。これらの係合受け部18、19、20は、滑車支持体4の基端側と先端側とを結ぶ方向(すなわち滑車支持体4の長手方向)に所定間隔をおいて並列に配設されており、そのいずれかに前記係合部14を選択的に係合できるようになっている。

【0017】次いで、この運動具1の使用状態を説明する。使用するにあたっては、先ず滑車支持体4を略直立状態に起こし、次いで受け台3の他端側を持ち上げて、その係合部14を滑車支持体4の係合受け部18、19、20のいずれか(図では中間の係合受け部19)に係合させる。これにより、図1～図3のように、他端側が持ち上げられた傾斜状態の受け台3と、受け台3側に若干傾斜した略起立状態の滑車支持体4とが互いに係止し合い、それぞれが前記の状態に保持される。

【0018】そこで、使用者は図3のように仰臥し、その上半身を受け台3に載置するとともに、両端部が受け台3の上方に延出した索条31の足掛け部32、32に両足のつま先部分をそれぞれ挿入し、土踏まずの部分各足掛け部32に掛止する。そして、一方の足を床34に着け、他方の足をほぼ直立させた状態から、膝をできるだけ伸ばしたまま両足を交互に水平位置と垂直位置との間で上下させるような運動を行なう。

【0019】この際、図3に矢印で示したように、立てていた方の足を降ろしてゆくと、その足に引っ張られて索条31が一端側に移動させられ、これに伴い滑車支持体4側に引き寄せられる索条31の他端側によって、他方の足が略直立状態にまで引き上げられてゆく。このように、一方の足の重みによって他方の足を引き上げてゆくの、無理な力を入れなくても両足を交互に上下する運動ができ、しかも、その際に使用者の体重は大部分が受け台3に受け止められて足腰にはかからないので、例えば足腰に痛みがあるために歩行が困難な人であっても、歩行運動をしたのと同様の効果を有する足の運動が実行できる。

【0020】また、索条31によって足が引き上げられる際に、その足首から腰にかけての筋が伸ばされるのに加えて、受け台3の傾斜により身体が腰を中心として略L字状ないしは略V字状に折れ曲がった状態で運動をすることになるために、腰から背中にかけての身体の裏側の筋も伸ばされる。したがって、結果として足首から背中までの身体の裏側の筋をほぼ全体的に引き伸ばすことが可能となつて、腰痛の予防、治療、及びリハビリテーションも図れる。

【0021】そして、この運動具1は、畳一畳分程度のスペースさえあれば家庭内においても容易に使用できるので、毎日一定時間ずつ前記の運動を行なうことにより、足の衰えを防止して健康増進を図るとともに、老化防止や成人病の予防を図る効果が期待できる。

【0022】なお、前記では係合部14を係合受け部19に係合させたが、係合受け部18又は20とさせることにより、使用状態における受け台3の傾斜角度を変えることができる。すなわち、係合部14を滑車支持体4基端寄りの係合受け部20に係合させると、受け台3の傾斜角度が小さく(傾きが緩く)なるので、使用者が使用する場合において、直立させた足と胴体とがなす角度は直角に近付くことになり、足の付け根の関節の曲げも浅くなって、運動が容易となる。したがって、身体が比較的かたい人や足腰の痛みの症状が重い人が使用する場合に好適となる。他方、係合部14を滑車支持体4先端寄りの係合受け部18に係合させると、受け台3の傾斜角度が大きく(傾きがきつく)なるので、前記とは反対に、運動はやや困難となる。したがって、身体が比較的やわらかい人や健康状態の良好な人が使用する場合に好適となる。

【0023】また、特に腰痛の予防、治療、リハビリテーションを主目的として使用する場合には、図5に示したように、フレーム2の平板部9に適宜厚さのクッション材35(座布団等でも可)を置き、それにより腰を持ち上げた状態で使用することもできる。このようにすると、腰の部分における身体の曲がりが一層大きくなって、身体の裏側の筋を伸ばす効果もより一層顕著となる。したがって、腰痛の予防、治療、リハビリテーションに特に優れた効果が期待できる。

【0024】また、前記では下部滑車24、25を支持する支持部材26を切欠部28に嵌め込んで固定したが、滑車支持体4先端寄りの切欠部27に支持部材26を嵌め込んで固定すれば、上部滑車22、23と下部滑車24、25とが接近して、受け台3の上方に延出する索条31両端部の延出長さが長くなるために、身長の高い使用者が使用する場合に好適となる。反対に、支持部材26を滑車支持体4基端寄りの切欠部29に嵌め込んで固定すれば、受け台3上方に延出する索条31両端部の延出長さが短くなるために、身長の低い使用者が使用する場合に好適となる。このように、支持部材26を切欠部27、28、29のいずれかに選択的に固定することで、使用者の身長に応じて索条31両端部の延出長さを調節できるようになっている。

【0025】そして、運動具1の不使用时には、図4のように受け台3をフレーム2の内側に収容するとともに

に、このフレーム2及び受け台3の上方に滑車支持体4を重ね合わせた状態に折り畳むことができる。これにより、運動具1が極めてコンパクトになり、狭い保管スペースにも保管が可能となる。

【0026】なお、本発明に係る運動具が以上の実施形態に限定されないことは言うまでもない。例えば、前記では各一對の上部滑車22、23及び下部滑車24、25を設けたが、索条31両端部の延出長さを調節可能としない場合は下部滑車を設ける必要はなく、例えば滑車支持体4の先端近傍部に1個又は複数個の上部滑車を設け、この上部滑車に中間部を回し掛けて支持された索条の両端部を受け台の上方に延出させたような構成を採用することもできる。

【0027】また、係合部及び係合受け部の構成は、これらが互いに係脱自在に係合できる限り任意であり、例えば一方がピンで、他方がこのピンに係合するピン孔であるような構成も考えられる。

【0028】また、前記では係止手段を受け台3側の係合部と滑車支持体4側の係合受け部とから構成したが、係止手段は受け台3と滑車支持体4とが互いに係止し合うものに限定されず、例えば受け台3と滑車支持体4とをそれぞれ独立してフレーム2に係止することで、受け台3の傾斜状態と滑車支持体4の略起立状態と保持する構成であってもよい。

【0029】さらに、前記では受け台3と滑車支持体4とをフレーム2に枢支して運動具1を折り畳み可能に構成したが、例えば受け台3がフレーム2に所定の傾斜角度で固定支持されていたり、滑車支持体4がフレーム2に立設状態で固定されていたりしても、足腰に体重をかけずに足の運動ができるという効果は奏される。

【0030】

【発明の効果】以上説明したように、本発明に係る運動具によれば、使用者は仰臥して、その上半身を受け台に載置するとともに、上部滑車から受け台の上方に延出した索条両端部の足掛け部に両足をそれぞれ係止した状態で、両足を交互に上下させる運動を無理なく行なうことができ、その際、使用者の体重は大部分が受け台に受け止められて足腰にはかからないので、例えば足腰に痛みがあるために歩行が困難な人であっても、歩行運動と同様の脚力強化効果を有する足の運動が実行できる。また、受け台の傾斜により身体が腰を中心として折れ曲がった状態で前記運動をすることになるために、身体の裏側の筋を引き伸ばすことができ、腰痛の予防やリハビリテーションも図れる。そして、家庭内において容易に使用できるので、毎日一定時間ずつ使用することで、足の衰えを防止して健康増進を図るとともに、老化防止や成人病の予防を図る効果も期待できる。

【0031】また、受け台と滑車支持体とをそれぞれ上下回動自在にフレームに枢支したものでは、不使用時には運動具をコンパクトに折り畳むことができ、狭いスペースにも保管することが可能となる。

【0032】さらに、係合部を係合受け部のいずれかと選択的に係合させることにより受け台の傾斜角度を変えられるようにしたものでは、例えば使用者の身体のかたさや足腰の痛みに応じた所望の傾斜角度にして、適度な運動を行なうことができる。

## 図の説明

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### 【図面の簡単な説明】

【図1】本発明の一実施形態に係る運動具の斜視図である。

【図2】図1のA-A線における側断面図である。

【図3】使用状態を示す運動具の側面図である。

【図4】折り畳み状態における運動具の斜視図である。

【図5】別の使用状態を示す運動具の側面図である。

### 【符号の説明】

1 運動具

2 フレーム

3 受け台

4 滑車支持体

14, 14 係合部(係止手段の構成要素)

18, 19, 20 係合受け部(係止手段の構成要素)

22, 23 上部滑車

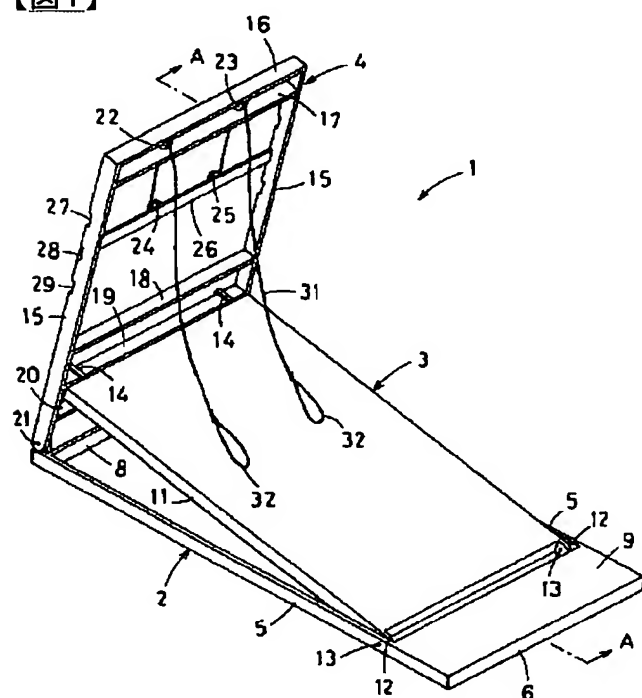
31 索条

32, 32 足掛け部

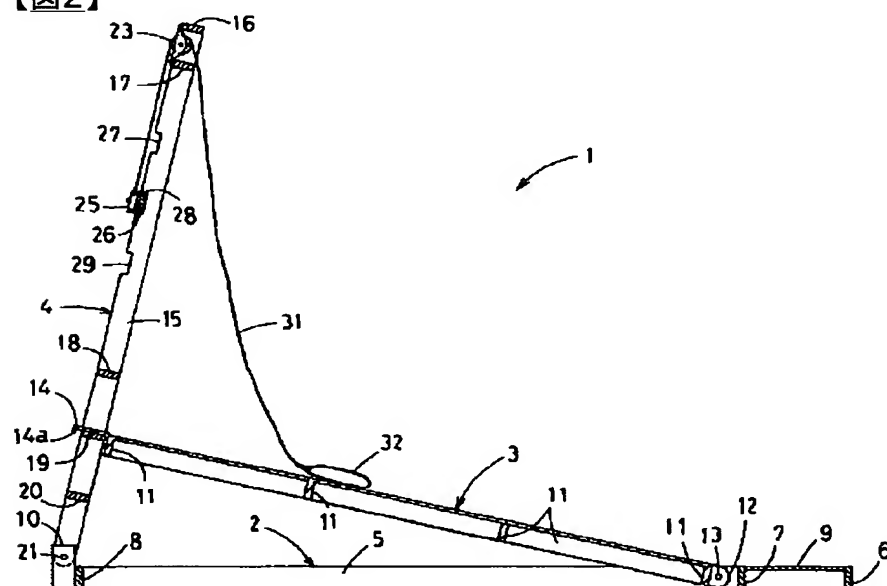


図面

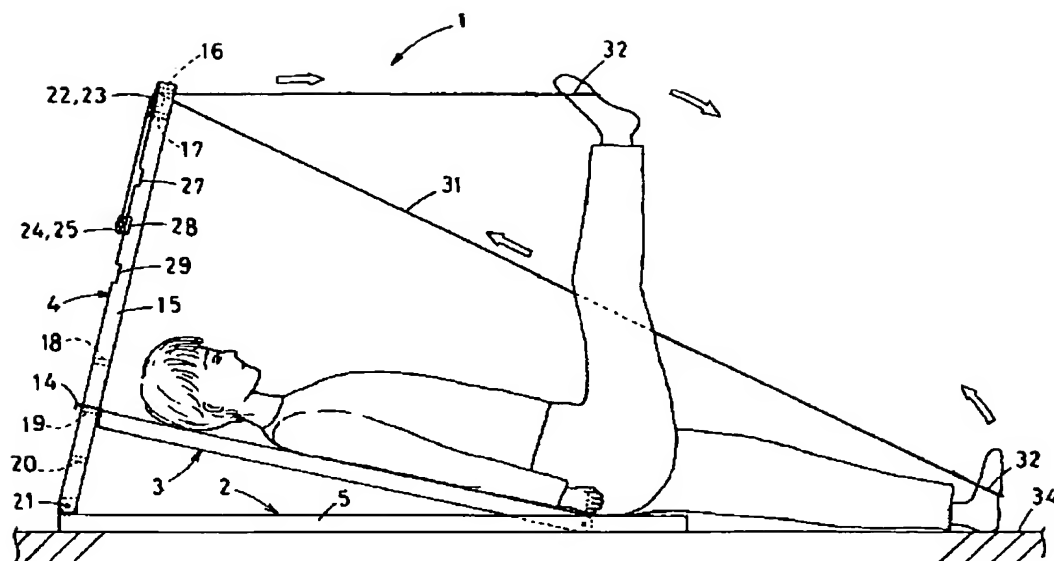
【図1】



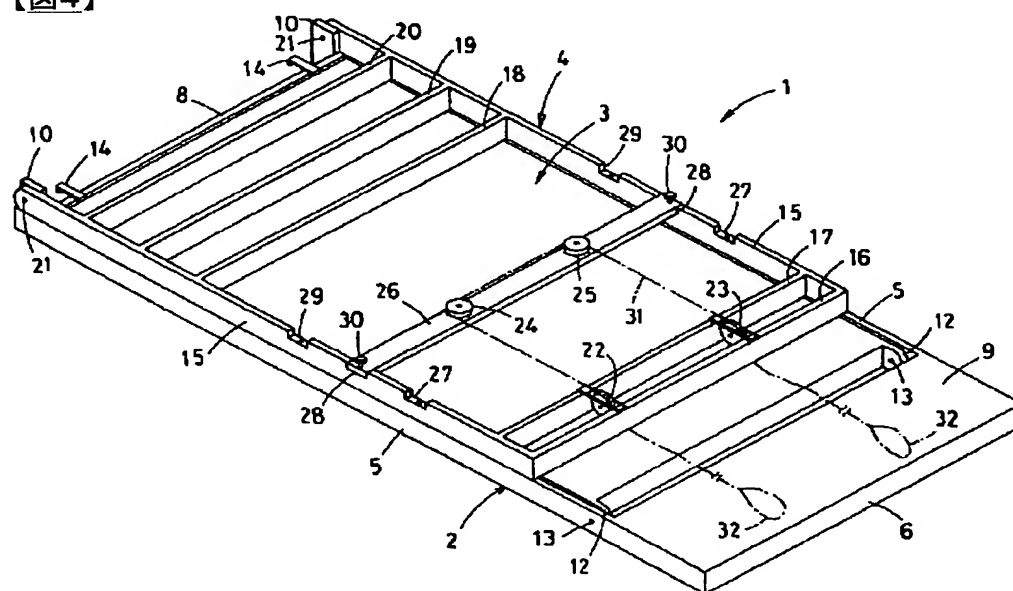
【図2】



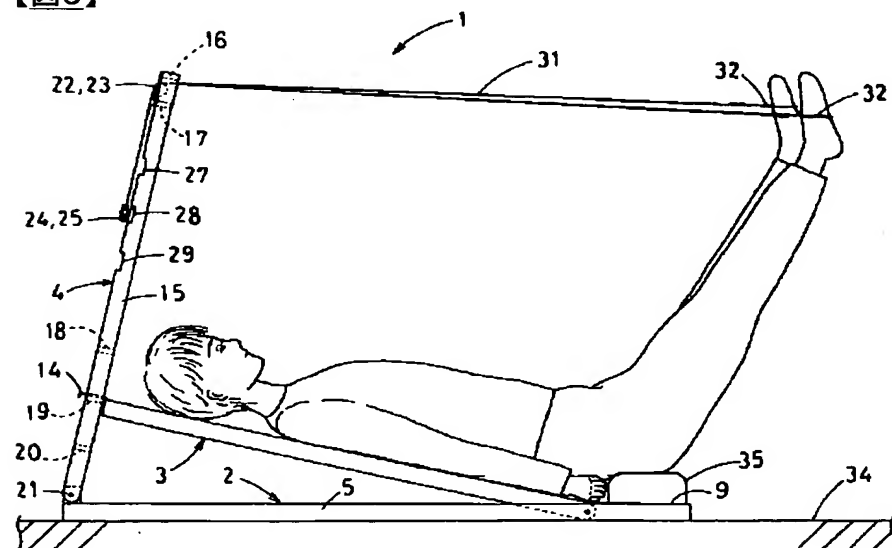
【図3】



【図4】



【図5】



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